



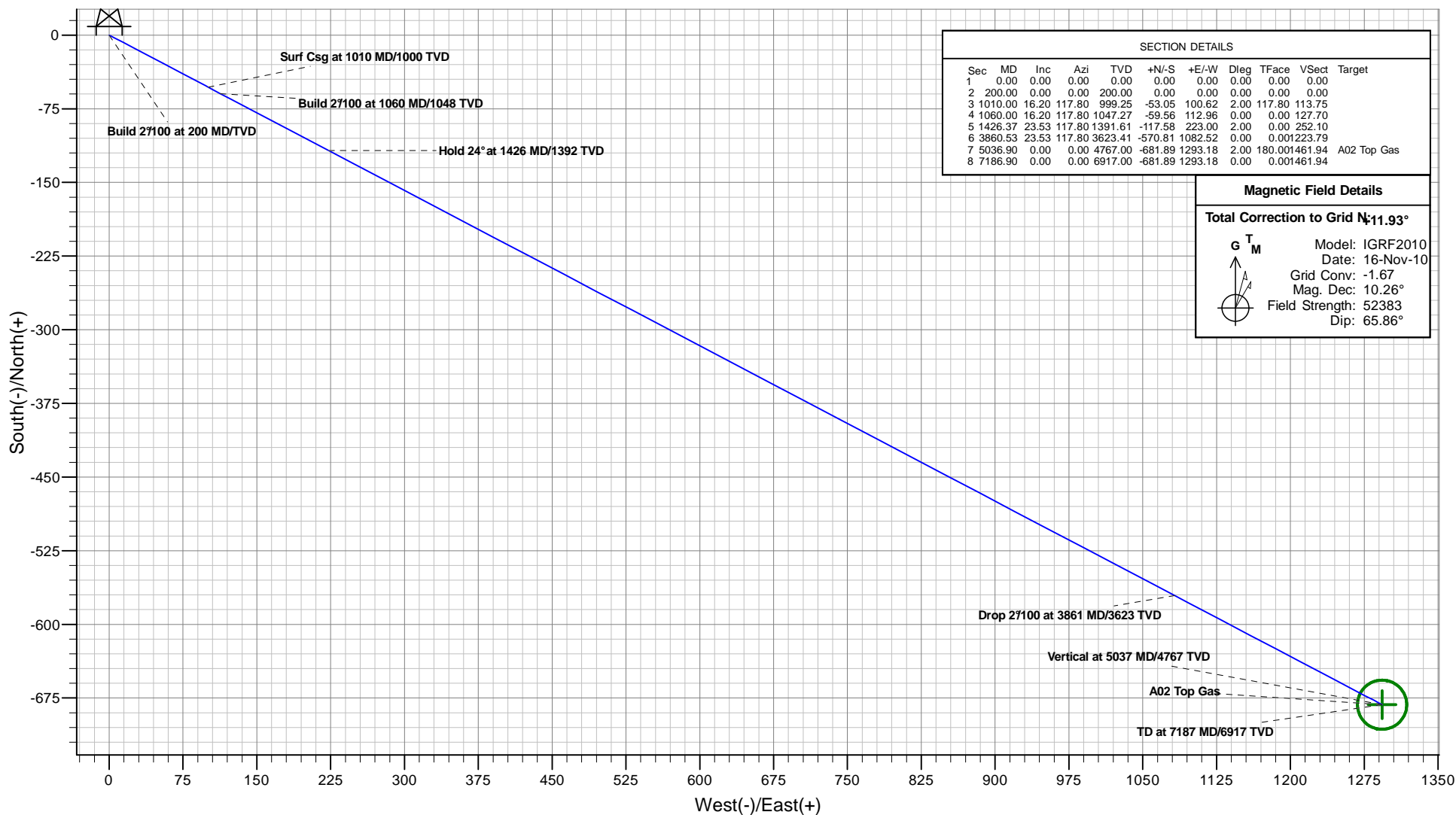
# Antero Resources

## McLin A02 (111206)

Project: McLin  
Site: McLin A  
Well: McLin A02 (111206)  
Wellbore: McLin A02  
Design: Antero McLin A02 P01



### PLAN VIEW



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1010.00	16.20	117.80	999.25	-53.05	100.62	2.00	117.80	113.75	
4	1060.00	16.20	117.80	1047.27	-59.56	112.96	0.00	0.00	127.70	
5	1426.37	23.53	117.80	1391.61	-117.58	223.00	2.00	0.00	252.10	
6	3860.53	23.53	117.80	3623.41	-570.81	1082.52	0.00	0.001223	79	
7	5036.90	0.00	0.00	4767.00	-681.89	1293.18	2.00	180.001461	94	A02 Top Gas
8	7186.90	0.00	0.00	6917.00	-681.89	1293.18	0.00	0.001461	94	

#### Magnetic Field Details

Total Correction to Grid N: 11.93°



Model: IGRF2010  
Date: 16-Nov-10  
Grid Conv: -1.67  
Mag. Dec: 10.26°  
Field Strength: 52383  
Dip: 65.86°

#### PROJECT DETAILS: McLin

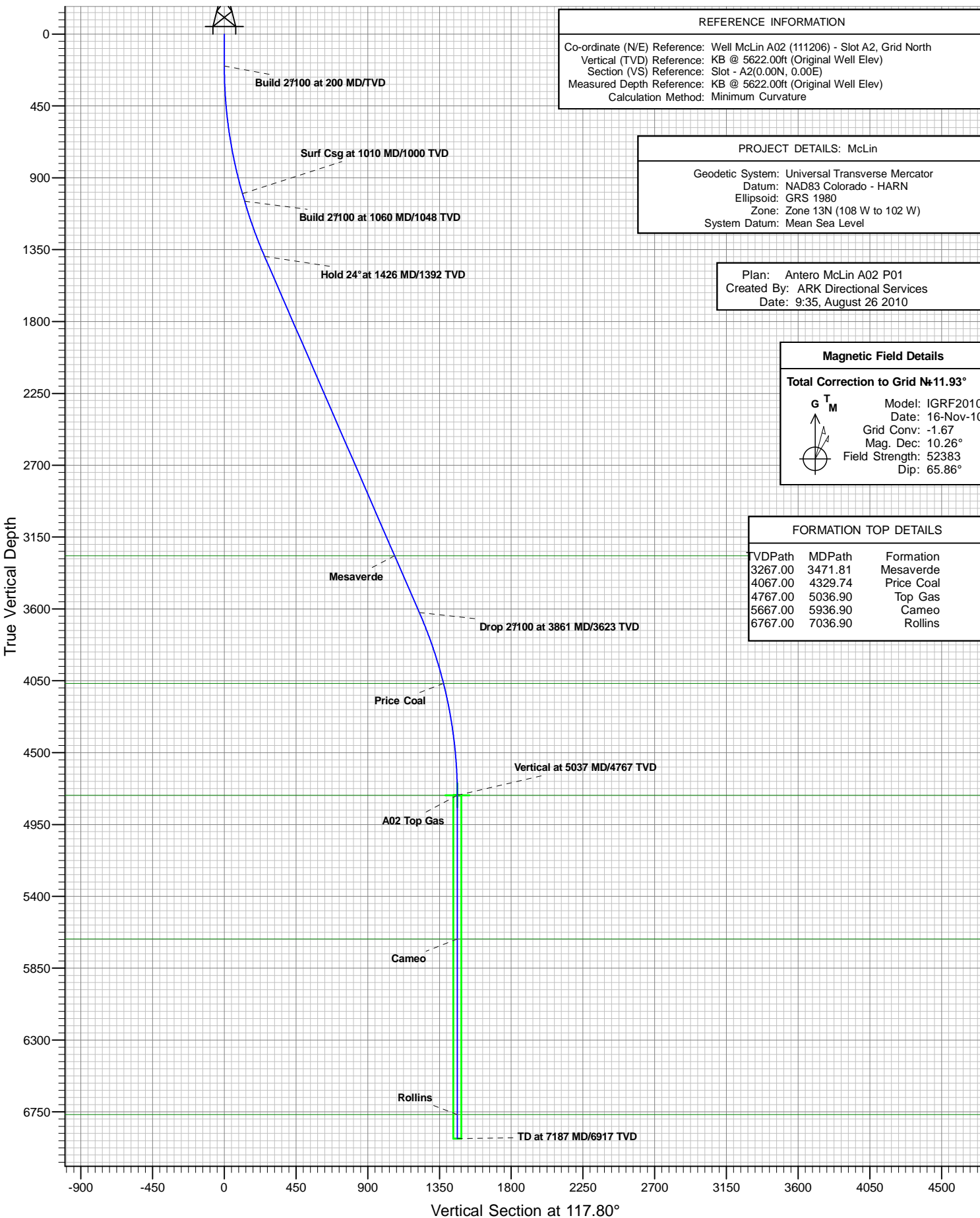
Geodetic System: Universal Transverse Mercator  
Datum: NAD83 Colorado - HARN  
Ellipsoid: GRS 1980  
Zone: Zone 13N (108 W to 102 W)  
System Datum: Mean Sea Level

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well McLin A02 (111206) - Slot A2, Grid North  
Vertical (TVD) Reference: KB @ 5622.00ft (Original Well Elev)  
Section (VS) Reference: Slot - A2(0.00N, 0.00E)  
Measured Depth Reference: KB @ 5622.00ft (Original Well Elev)  
Calculation Method: Minimum Curvature

Plan: Antero McLin A02 P01  
Created By: ARK Directional Services  
Date: 9:36, August 26 2010

### VERTICAL SECTION VIEW



# **Antero Resources**

**McLin**

**McLin A**

**McLin A02 (111206) - Slot A2**

**McLin A02**

**Plan: Antero McLin A02 P01**

## **Standard Planning Report - Geographic**

**26 August, 2010**

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin A02 (111206) - Slot A2
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Site:</b>	McLin A	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin A02 (111206)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin A02		
<b>Design:</b>	Antero McLin A02 P01		

<b>Project</b>	McLin		
<b>Map System:</b>	Universal Transverse Mercator	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD83 Colorado - HARN		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b>	McLin A		
<b>Site Position:</b>		<b>Northing:</b>	14,368,868.520 usft
<b>From:</b>	Map	<b>Easting:</b>	902,523.601 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	39.536981937°N
		<b>Longitude:</b>	107.617087010°W
		<b>Grid Convergence:</b>	-1.67 °

<b>Well</b>	McLin A02 (111206) - Slot A2		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	
		<b>Latitude:</b>	39.536908252°N
		<b>Longitude:</b>	107.617335247°W
		<b>Ground Level:</b>	5,598.00 ft

<b>Wellbore</b>	McLin A02				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2010/11/16	10.26	65.86	52,383

<b>Design</b>	Antero McLin A02 P01			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	4,767.00	0.00	0.00	117.80

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,010.00	16.20	117.80	999.25	-53.05	100.62	2.00	2.00	0.00	117.80	
1,060.00	16.20	117.80	1,047.27	-59.56	112.96	0.00	0.00	0.00	0.00	
1,426.37	23.53	117.80	1,391.61	-117.58	223.00	2.00	2.00	0.00	0.00	
3,860.53	23.53	117.80	3,623.41	-570.81	1,082.52	0.00	0.00	0.00	0.00	
5,036.90	0.00	0.00	4,767.00	-681.89	1,293.18	2.00	-2.00	0.00	180.00	A02 Top Gas
7,186.90	0.00	0.00	6,917.00	-681.89	1,293.18	0.00	0.00	0.00	0.00	

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin A02 (111206) - Slot A2
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Site:</b>	McLin A	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin A02 (111206)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin A02		
<b>Design:</b>	Antero McLin A02 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,368,843.722	902,452.820	39.536908252°N	107.617335247°W
100.00	0.00	0.00	100.00	0.00	0.00	14,368,843.722	902,452.820	39.536908252°N	107.617335247°W
200.00	0.00	0.00	200.00	0.00	0.00	14,368,843.722	902,452.820	39.536908252°N	107.617335247°W
<b>Build 2°/100 at 200 MD/TVD</b>									
300.00	2.00	117.80	299.98	-0.81	1.54	14,368,842.908	902,454.364	39.536906142°N	107.617329693°W
400.00	4.00	117.80	399.84	-3.25	6.17	14,368,840.467	902,458.993	39.536899816°N	107.617313039°W
500.00	6.00	117.80	499.45	-7.32	13.88	14,368,836.402	902,466.702	39.536889280°N	107.617285304°W
600.00	8.00	117.80	598.70	-13.00	24.66	14,368,830.719	902,477.482	39.536874547°N	107.617246523°W
700.00	10.00	117.80	697.47	-20.30	38.50	14,368,823.423	902,491.319	39.536855636°N	107.617196743°W
800.00	12.00	117.80	795.62	-29.20	55.38	14,368,814.525	902,508.197	39.536832570°N	107.617136024°W
900.00	14.00	117.80	893.06	-39.69	75.27	14,368,804.034	902,528.095	39.536805376°N	107.617064440°W
1,000.00	16.00	117.80	989.64	-51.76	98.17	14,368,791.963	902,550.988	39.536774088°N	107.616982080°W
1,010.00	16.20	117.80	999.25	-53.05	100.62	14,368,790.670	902,553.441	39.536770736°N	107.616973254°W
<b>Surf Csg at 1010 MD/1000 TVD</b>									
1,060.00	16.20	117.80	1,047.27	-59.56	112.96	14,368,784.164	902,565.780	39.536753870°N	107.616928863°W
<b>Build 2°/100 at 1060 MD/1048 TVD</b>									
1,100.00	17.00	117.80	1,085.60	-64.89	123.07	14,368,778.833	902,575.889	39.536740054°N	107.616892498°W
1,200.00	19.00	117.80	1,180.70	-79.30	150.40	14,368,764.421	902,603.221	39.536702693°N	107.616794166°W
1,300.00	21.00	117.80	1,274.66	-95.25	180.65	14,368,748.469	902,633.474	39.536661343°N	107.616685332°W
1,400.00	23.00	117.80	1,367.38	-112.72	213.79	14,368,730.997	902,666.608	39.536616053°N	107.616566129°W
1,426.37	23.53	117.80	1,391.60	-117.58	223.00	14,368,726.139	902,675.821	39.536603460°N	107.616532985°W
<b>Hold 24° at 1426 MD/1392 TVD</b>									
1,500.00	23.53	117.80	1,459.11	-131.29	249.00	14,368,712.429	902,701.820	39.536567923°N	107.616439452°W
1,600.00	23.53	117.80	1,550.80	-149.91	284.31	14,368,693.810	902,737.130	39.536519658°N	107.616312420°W
1,700.00	23.53	117.80	1,642.49	-168.53	319.62	14,368,675.191	902,772.441	39.536471393°N	107.616185389°W
1,800.00	23.53	117.80	1,734.17	-187.15	354.93	14,368,656.571	902,807.751	39.536423127°N	107.616058358°W
1,900.00	23.53	117.80	1,825.86	-205.77	390.24	14,368,637.952	902,843.062	39.536374862°N	107.615931327°W
2,000.00	23.53	117.80	1,917.55	-224.39	425.55	14,368,619.333	902,878.372	39.536326596°N	107.615804296°W
2,100.00	23.53	117.80	2,009.23	-243.01	460.86	14,368,600.713	902,913.683	39.536278331°N	107.615677265°W
2,200.00	23.53	117.80	2,100.92	-261.63	496.17	14,368,582.094	902,948.993	39.536230065°N	107.615550234°W
2,300.00	23.53	117.80	2,192.61	-280.25	531.48	14,368,563.475	902,984.304	39.536181799°N	107.615423204°W
2,400.00	23.53	117.80	2,284.29	-298.87	566.80	14,368,544.855	903,019.614	39.536133533°N	107.615296174°W
2,500.00	23.53	117.80	2,375.98	-317.49	602.11	14,368,526.236	903,054.925	39.536085266°N	107.615169144°W
2,600.00	23.53	117.80	2,467.67	-336.11	637.42	14,368,507.617	903,090.235	39.536037000°N	107.615042114°W
2,700.00	23.53	117.80	2,559.35	-354.72	672.73	14,368,488.997	903,125.546	39.535988733°N	107.614915084°W
2,800.00	23.53	117.80	2,651.04	-373.34	708.04	14,368,470.378	903,160.856	39.535940467°N	107.614788055°W
2,900.00	23.53	117.80	2,742.73	-391.96	743.35	14,368,451.759	903,196.167	39.535892200°N	107.614661025°W
3,000.00	23.53	117.80	2,834.42	-410.58	778.66	14,368,433.139	903,231.477	39.535843933°N	107.614533996°W
3,100.00	23.53	117.80	2,926.10	-429.20	813.97	14,368,414.520	903,266.788	39.535795666°N	107.614406967°W
3,200.00	23.53	117.80	3,017.79	-447.82	849.28	14,368,395.901	903,302.098	39.535747398°N	107.614279938°W
3,300.00	23.53	117.80	3,109.48	-466.44	884.59	14,368,377.281	903,337.409	39.535699131°N	107.614152909°W
3,400.00	23.53	117.80	3,201.16	-485.06	919.90	14,368,358.662	903,372.719	39.535650863°N	107.614025881°W
3,471.81	23.53	117.80	3,267.00	-498.43	945.26	14,368,345.292	903,398.075	39.535616204°N	107.613934666°W
<b>Mesaverde</b>									
3,500.00	23.53	117.80	3,292.85	-503.68	955.21	14,368,340.043	903,408.030	39.535602595°N	107.613898852°W
3,600.00	23.53	117.80	3,384.54	-522.30	990.52	14,368,321.423	903,443.340	39.535554328°N	107.613771824°W
3,700.00	23.53	117.80	3,476.22	-540.92	1,025.83	14,368,302.804	903,478.651	39.535506060°N	107.613644796°W
3,800.00	23.53	117.80	3,567.91	-559.54	1,061.14	14,368,284.184	903,513.961	39.535457791°N	107.613517768°W
3,860.53	23.53	117.80	3,623.41	-570.81	1,082.52	14,368,272.914	903,535.335	39.535428575°N	107.613440879°W
<b>Drop 2°/100 at 3861 MD/3623 TVD</b>									
3,900.00	22.74	117.80	3,659.70	-578.04	1,096.23	14,368,265.682	903,549.051	39.535409825°N	107.613391536°W
4,000.00	20.74	117.80	3,752.59	-595.32	1,128.99	14,368,248.408	903,581.810	39.535365044°N	107.613273687°W
4,100.00	18.74	117.80	3,846.71	-611.07	1,158.86	14,368,232.656	903,611.682	39.535324210°N	107.613166225°W
4,200.00	16.74	117.80	3,941.95	-625.28	1,185.81	14,368,218.446	903,638.630	39.535287373°N	107.613069281°W

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin A02 (111206) - Slot A2
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Site:</b>	McLin A	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin A02 (111206)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin A02		
<b>Design:</b>	Antero McLin A02 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,300.00	14.74	117.80	4,038.20	-637.93	1,209.80	14,368,205.796	903,662.621	39.535254577°N	107.612982973°W
4,329.74	14.14	117.80	4,067.00	-641.39	1,216.36	14,368,202.336	903,669.183	39.535245608°N	107.612959369°W
Price Coal									
4,400.00	12.74	117.80	4,135.33	-649.00	1,230.81	14,368,194.719	903,683.627	39.535225862°N	107.612907406°W
4,500.00	10.74	117.80	4,233.23	-658.49	1,248.80	14,368,185.231	903,701.621	39.535201264°N	107.612842674°W
4,600.00	8.74	117.80	4,331.79	-666.38	1,263.76	14,368,177.342	903,716.582	39.535180813°N	107.612788853°W
4,700.00	6.74	117.80	4,430.87	-672.66	1,275.67	14,368,171.062	903,728.492	39.535164533°N	107.612746009°W
4,800.00	4.74	117.80	4,530.37	-677.32	1,284.52	14,368,166.399	903,737.335	39.535152444°N	107.612714196°W
4,900.00	2.74	117.80	4,630.15	-680.37	1,290.28	14,368,163.358	903,743.102	39.535144561°N	107.612693451°W
5,000.00	0.74	117.80	4,730.10	-681.78	1,292.97	14,368,161.943	903,745.785	39.535140894°N	107.612683800°W
5,036.90	0.00	0.00	4,767.00	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
Vertical at 5037 MD/4767 TVD - Top Gas - A02 Top Gas									
5,100.00	0.00	0.00	4,830.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,200.00	0.00	0.00	4,930.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,300.00	0.00	0.00	5,030.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,400.00	0.00	0.00	5,130.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,500.00	0.00	0.00	5,230.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,600.00	0.00	0.00	5,330.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,700.00	0.00	0.00	5,430.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,800.00	0.00	0.00	5,530.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,900.00	0.00	0.00	5,630.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
5,936.90	0.00	0.00	5,667.00	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
Cameo									
6,000.00	0.00	0.00	5,730.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,100.00	0.00	0.00	5,830.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,200.00	0.00	0.00	5,930.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,300.00	0.00	0.00	6,030.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,400.00	0.00	0.00	6,130.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,500.00	0.00	0.00	6,230.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,600.00	0.00	0.00	6,330.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,700.00	0.00	0.00	6,430.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,800.00	0.00	0.00	6,530.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
6,900.00	0.00	0.00	6,630.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
7,000.00	0.00	0.00	6,730.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
7,036.90	0.00	0.00	6,767.00	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
Rollins									
7,100.00	0.00	0.00	6,830.10	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
7,186.89	0.00	0.00	6,916.99	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W
TD at 7187 MD/6917 TVD									
7,186.90	0.00	0.00	6,917.00	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
A02 Top Gas - plan hits target center - Circle (radius 25.00)	0.00	360.00	4,767.00	-681.89	1,293.18	14,368,161.832	903,745.995	39.535140606°N	107.612683043°W

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin A02 (111206) - Slot A2
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5622.00ft (Original Well Elev)
<b>Site:</b>	McLin A	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin A02 (111206)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin A02		
<b>Design:</b>	Antero McLin A02 P01		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,471.81	3,267.00	Mesaverde				
4,329.74	4,067.00	Price Coal				
5,036.90	4,767.00	Top Gas				
5,936.90	5,667.00	Cameo				
7,036.90	6,767.00	Rollins				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.00	200.00	0.00	0.00	Build 2°/100 at 200 MD/TVD	
1,010.00	999.25	-53.05	100.62	Surf Csg at 1010 MD/1000 TVD	
1,060.00	1,047.27	-59.56	112.96	Build 2°/100 at 1060 MD/1048 TVD	
1,426.37	1,391.60	-117.58	223.00	Hold 24° at 1426 MD/1392 TVD	
3,860.53	3,623.41	-570.81	1,082.52	Drop 2°/100 at 3861 MD/3623 TVD	
5,036.90	4,767.00	-681.89	1,293.18	Vertical at 5037 MD/4767 TVD	
7,186.89	6,916.99	-681.89	1,293.18	TD at 7187 MD/6917 TVD	